Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original):   A data processing method for processing so that a portable device including an integrated circuit for storing memory area division data and first area management key data, is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when said portable device is issued by a first service provider providing a service using said memory area,

said data processing method comprising the steps of:

having a memory area operation unit managing said key memory area division data encrypt first module data including second area management key data by the key memory area division data, and providing the same to the first service provider;

having the issuer of the portable device, which is said first service provider, encrypt second module data including the encrypted first module data by using said first area management key data and providing the same to said memory area operation unit; and,

under the control of the memory area operation unit, providing the encrypted second module data to the integrated circuit, decrypting the second module data by using the first area management key data in the integrated circuit, decrypting the first module data in the decrypted second module data by using the key memory area division data, and dividing the memory area to a first memory area to be used for the services of the first service provider and a second memory area to be used for the services of the second service provider by using the second area management key data obtained from the decryption of the data.

Claim 2 (original):   A data processing method as set forth in claim 1, further comprising the step of having the integrated circuit divide the memory area into the first memory area wherein at least one of a write operation and a rewrite operation is authorized on the condition that the first area management key data is used and the second memory area wherein at least one of a write operation and a rewrite operation is authorized on the condition that the second area management key data is used.

Claim 3 (original):   A data processing method as set forth in claim 1, further comprising:

having the integrated circuit further store first system key data and authorize at least one of a write operation of data to the memory area and a rewrite operation of data in the memory area on the condition the first system key data and the first area management key data are used;

having the memory area operation unit encrypt first module data further including second system key data by the key memory area division data and provide the same to the first service provider;

having the first service provider encrypt second module data including the encrypted first module data and division condition information indicating the condition for dividing the memory area for use by another service provider by using the first area management key data and providing it to the memory area operation unit; and

having the integrated circuit decrypt the second module data by using the first area management key data, decrypt the first module data in the decrypted second module by using the key memory area division data, and divide the memory area by using the second system key data, second area management key data, and division condition information obtained by decrypting the data.

Claim 4 (original):   A data processing method as set forth in claim 1, further comprising

providing a memory area division apparatus for dividing said memory area to said second service provider under the control of said memory area operation unit and

having said memory area division apparatus provide said encrypted second module data to said integrated circuit.

Claim 5 (original):   A data processing method as set forth in claim 2, providing a plurality of third memory areas defined in said second memory area and third area management key data used for performing at least one of a write operation to the third memory area and a rewrite operation in the third memory area defined in each of said third memory areas,

further comprising the steps of:

having said memory area operation unit encrypt third area management key data by second area management key data and provide the same to said memory area division apparatus;

having said memory area division apparatus provide said encrypted third area management key data to said integrated circuit; and

having said integrated circuit decrypt said encrypted third area management key data by using said second area management key data, establish correspondence with said third memory areas defined in said second memory area to store said third area management key data obtained by decrypting the data.

Claim 6 (original):   A data processing method as set forth in claim 5, further comprising the step:

having said memory area operation unit assign a service code for identifying a service provided by using the third memory area for each of said third memory areas and generate and store an area code list indicating an area code for identifying said third memory area, said third area management key data corresponding to the third memory area, and said service code assigned to the corresponding third memory area.

Claim 7 (original):   A data processing method as set forth in claim 3, further comprising the steps of:

providing a memory area division apparatus for dividing said memory area for said second service provider under the control of said memory area operation unit;

having said memory area division apparatus provide said encrypted second module data to said integrated circuit;

having said memory area operation unit provide first degenerate key data obtained by encrypting the data using said second system key data and said second area management key data to said memory area division apparatus;

having said integrated circuit generate second degenerate key data by encrypting the data using said second system key data obtained by decrypting the data and said second area management key data; and

performing mutual authentication between said memory area division apparatus and said integrated circuit using said first degenerate key data and said second degenerate key data.

Claim 8 (original):   A data processing method as set forth in claim 6, further comprising the steps of:

having said memory area operation unit

provide an operation file registration apparatus to said second service provider,

provide said third area management key data to said operation file registration apparatus, and

establish correspondence between said service code in said area code list and said area code to provide the same to said operation file registration apparatus;

having said operation file registration apparatus store file registration permission data indicating said service code and file management key data issued by said second service provider in correspondence, encrypt said file registration permission data by using said third area management key data, and provide the same to said integrated circuit; and

having said integrated circuit decrypt said file registration permission data by using said third area management key data and write file data relating to a service of said second service provider to said third memory area by using said file management key data in said decrypted file registration permission data.

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Claim 9 (original):   A data processing method as set forth in claim 4, further comprising the steps of,

when there are a plurality of said first service providers, and said first system management key data and a system code for identifying said first service provider are added to each of said plurality of first service providers,

having said memory area operation unit

receive rejection information that specifies a party for which provision of services from respective service providers using the same integrated circuit is rejected from said first service provider and said second service provider,

generate a registerable system code list indicating said system code added to said first service provider capable of providing a service by said same integrated circuit as said second service provider based on said rejection information, and

provide the registerable system code list to said memory area division apparatus; and

having said memory area division apparatus judge whether or not to divide said memory area of the integrated circuit based on said system code stored in the integrated circuit and said registerable system code list before dividing said memory area of said integrated circuit.

Claim 10 (original):   A data processing method as set forth in claim 1, further comprising the step of having said memory area operation unit pay a fee for using said second memory area of said integrated circuit to said first service provider.

Claim 11 (original):   A data processing method as set forth in claim 1, further comprising the step of having said second service provider pay a fee for using said second memory area of said integrated circuit to said memory area operation unit.

Claim 12 (original):   A data processing method as set forth in claim 1, wherein said portable device is a card.

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Claim 13 (original): A data processing system for processing data so that a portable device including an integrated circuit for storing key memory area division data and first area management key data is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when issued by a first service provider using said memory area, wherein the system has

a memory area operation processing apparatus used by a memory area operation unit which manages the memory area division data,

a first service provider processing apparatus used by the issuer of the portable device which is the first service provider, and

a second service provider processing apparatus used by the first service provider;

wherein:

the memory area operation processing apparatus encrypts first module data including second area management key data by the memory area division data and sends the same to the first service provider processing apparatus;

the first service provider processing apparatus encrypts second module data including the received encrypted first module using the first area management key data and sends the same to the memory area operation processing apparatus;

the memory area operation processing apparatus provides the received encrypted second module data to the integrated circuit; and

the integrated circuit decrypts the second module data by using the first area management key data, decrypts the first module data in the decrypted second module by using the memory area division data, and divides the memory area to a first memory area to be used for service of the first service provider and a second memory area to be used for service of the second service provider using the second area management key data obtained by the decrypting the data under control of the memory area operation unit.

Claim 14 (original):   A data processing system as set forth in claim 13, wherein said integrated circuit divides said memory area into said first memory area wherein at least one of a write operation and a rewrite operation is authorized on the condition that said first area management key data and said second memory area are used wherein at least one of a write operation and a rewrite operation is authorized where said second area management key data is used.

Claim 15 (original):   A data processing system as set forth in claim 13, wherein:
said integrated circuit further stores first system key data and authorizes at least one of a write operation to said memory area and a rewrite operation in the memory area on the condition that said first system key data and said first area management key data are used;

said memory area operation processing apparatus encrypts first module data further including second system key data by said key memory area division data and provides the same to a first service provider processing apparatus;

said first service provider processing apparatus encrypts second module data including said encrypted first module and division condition information indicating conditions of dividing said memory area for use of other service providers and provides it to said memory area operation unit processing apparatus; and

said integrated circuit decrypts said second module data by using said first area management key data, decrypts said first module data in the decrypted second module data by using said key memory area division data, and divides said memory area by using said second system key data, second area management key data, and said division condition information obtained by decrypting the data.

Claim 16 (original):   A portable device mounting an integrated circuit used for a first service provider providing a service, wherein the integrated circuit comprises:

a memory means for storing key memory area division data managed by a memory area operation unit performing processing to make a second service provider provide a service using a part of a memory area of the integrated circuit and first area management key data;

an input means for inputting a module including second area management key data issued by the memory area operation unit which is encrypted by the memory area operation unit using the memory area division data and furthermore encrypted by the first service provider by using the first area management key data; and

a processing means for decrypting the input module by using the memory area division data and the first area management key data, dividing a memory area of the memory means to a first memory area and a second memory area by using the second area management key data in the decrypted module, authorizing at least one of a write operation to the first memory area and a rewrite operation in the memory area on the condition that the first area management key data is used and authorizing at least one of a write operation to the second memory area and a rewrite operation in the memory area on the condition that the second area management key data is used.

Claim 17 (original):   A portable device as set forth in claim 16, wherein said processing means authorizes a write operation of a file used for processing of the processing means in said first memory area on the condition that said first area management key data is used and authorizes a write operation of a file used for processing of the processing means in said second memory area on the condition that said second area management key data is used.

Claim 18 (original):   A portable device as set forth in claim 16, wherein:

said memory means further stores first system key data;

said input means receives as an input, said module further including second system key data; and

said processing means uses said second system key data and said second area management key data in said decrypted module to divide the memory area of said memory means to said first memory area and said second memory area, authorizes at least one of a write operation to said first memory area or a rewrite operation in the memory area on the condition that said first system key data and said first area management key data are used, and authorizes at least one of a write operation to said second memory area or a rewrite operation in the memory area on the condition that said second system key data and said second area management key data are used.

Claim 19 (original): A data processing apparatus for processing data so that a portable device including an integrated circuit for storing distribution key data, a system code for identifying a first service provider, and first area management key data which is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when issued by a first service provider providing a first service using said memory area, wherein

the apparatus has a memory means, processing means, and input/output means;

the memory means stores rejection information specifying a service provider which can provide service by the same integrated circuit indicated by the first service provider and the second service provider;

the processing means encrypts a first module including second management key data by using the key memory area division data;

the input/output means outputs the encrypted first module to provide it to the first service provider, receives as input a second module including the encrypted first module and encrypted in the first service provider by using the first area management key data, and outputs the second module to provide it to a memory area division apparatus for dividing the memory area under control of the second service provider so that a part of the memory area of the integrated circuit can be used by the second service provider;

the processing means generates a registerable system code list indicating the system code added to the first service provider which can provide service by the same integrated circuit as the second service provider based on the rejection information; and

the input/output means outputs the system code list to provide it to the memory area division apparatus.

Claim 20 (original):   A data processing apparatus as set forth in claim 19, wherein

when said memory area division apparatus divides said memory area of said integrated circuit into said first memory area wherein at least one of a write operation and a rewrite operation is authorized on the condition that said first area management key data is used, and said second memory area wherein at least one of a write operation and a rewrite operation is authorized on the condition that said second area management key data is used;

said processing means defines a plurality of memory areas in said second memory area, issues third area management key data used for performing at least one of a write operation to the third memory area and a rewrite operation in said third memory area for each of said plurality of third memory areas and encrypts the third area management key data by said second area management key data; and

said input/output means outputs said encrypted third area management key data to provide it to said memory area division apparatus.

Claim 21 (original):   A data processing apparatus as set forth in claim 20, wherein said processing means issues a service code for identifying a service provided by using the third memory area for each of said third memory areas and generates an area code list indicating an area code for identifying said third memory areas, said third area management data corresponding to the third memory area, and said service code assigned to the third memory area in correspondence; and

said memory means stores said area code list.

Claim 22 (original):   A data processing apparatus as set forth in claim 21, wherein said input/output means establishes correspondence between said area code included in said area code list and said service code and outputs the same to provide it to a file registration apparatus for writing file data used for a service of said second service provider in said third memory area of said integrated circuit.

Claim 23 (original):   A data processing apparatus for processing data so that a portable device including an integrated circuit for storing distribution key data, a system code for identifying a first service provider, and first area management key data which is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when issued by a first service provider providing a first service using said memory area, wherein the apparatus has a memory means, input/output means, and processing means;

the memory means stores a module including second area management key data issued by a memory area operation unit for managing processing of the data processing apparatus and encrypted by the memory area operation unit using the key memory area division data and a registerable system code list indicating the system code added to the first service provider which can provide service by the same integrated circuit as the second service provider;

the input/output means receives as input the system code from the integrated circuit; and

the processing means outputs the module to the integrated circuit via the input/output means when it judges that the input system code is indicated in the registerable system code list.

Claim 24 (original):   A data processing apparatus for performing processing to write file data in a second memory area of an integrated circuit having a first memory area wherein at least one of a write operation and rewrite operation of file data used for providing a first service is authorized on the condition that first area management key data is used and a second memory area wherein at least one of a write operation and rewrite operation of file data used for providing a second service is authorized on the condition that second area management key data is used,

when a plurality of third memory areas are defined in the second memory area, third memory management key data used for performing at least one of a write operation of data to a third memory area and a rewrite operation of data in the third memory area is defined for each of the plurality of third memory areas, and said integrated circuit stores said third area management key data,

said data processing apparatus, comprising:

a memory means storing third area management data and file key data which is issued by the second service provider, used at the time of writing the file data to a third memory area, and encrypted by the third area management key data;

an output means for outputting the encrypted file key data to the integrated circuit; and

a writing means for writing file data to be used for providing the second service to the second memory area of the integrated circuit by using the file key data.

Claim 25 (original):   A portable unit issuing method comprising the steps of:

issuing a portable unit including an integrated circuit for storing memory area division data and first area management key data and authorizing at least one of a write operation to a memory area in said integrated circuit and a rewrite operation in the memory area on the condition that the first area management key data is used and

requesting a memory area operation unit managing the memory area division data to divide the memory area of the integrated circuit to a first memory area wherein at least one of a write operation and re-write operation in the memory area is authorized on the condition that the first area management key data is used and a second memory area wherein at least one of a write operation and a rewrite operation in the memory area is authorized on the condition that the second area management key data is used by using the memory area division data.

Claim 26 (original):   A method of issuing a portable unit as set forth in claim 25, wherein said portable unit is a integrated circuit card.

Claim 27 (currently amended):   A program stored in a computer readable medium for making a computer execute processing so that a portable device including an integrated circuit for storing memory area division data, a system code for identifying a first service provider, and first area management key data which is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when issued by a first service provider providing a first service using said memory area, comprising making the computer execute

a routine for receiving as input the system code from the integrated circuit;

a routine for referring to a registerable system code list indicating the system code given to the first service provider which can provide a service by the same integrated circuit as the second service provider and judging whether the input system code is indicated in the registerable system code list; and

a routine for outputting to the integrated circuit a module including second area management data issued by a memory area operation unit managing execution of the program and encrypted by the memory area operation unit by using the key memory area division data and further encrypted by the first service provider by using the first area management key data when judging that the input system code is indicated in the registerable system code list.

Claim 28 (currently amended):   A data processing method for processing so that a portable device including an integrated circuit for storing distribution key data, a system code for identifying a first service provider, and first area management key data which is authorized to perform at least one of a write operation to a memory area of said integrated circuit and a rewrite operation to the memory area on the condition that the first area management key data makes a second service provider provide a service using part of said memory area of said integrated circuit when issued by a first service provider providing a first service using said memory area, comprising:

a routine of inputting the system code from the integrated circuit;

a routine of referring to a registerable system code list indicating the system code given to the first service provider which can provide service by the same integrated circuit as the second service provider and judging whether the input system code is indicated in the registerable system code list; and

a routine of outputting to the integrated circuit a module including second area management data issued by a memory area operation unit managing execution of the program and encrypted by the memory area operation unit by using the distribution key data and further encrypted by the first service provider using the first area management key data when it judges that the input system code is indicated in the registerable system code list.

Claim 29 (currently amended):   A program stored in a computer readable medium for making a computer execute processing for writing file data to a second memory area of an integrated circuit having a first memory area wherein at least one of a write operation and rewrite operation of file data used for providing a first service is authorized on the condition that first area management key data is used and a second memory area wherein at least one of a write operation and rewrite operation of file data used for providing a second service is authorized on the condition that second area management key data is used, said program comprising:

a routine of outputting to the integrated circuit file key data which is issued by a second service provider, used at the time of writing the file data in a third memory area, and encrypted by a third area management data when a plurality of third memory areas are defined in the second memory area, a third memory management key data used for performing at least one of a write operation to a third memory area and a rewrite operation in the third memory area is defined for each of the plurality of third memory areas, and the integrated circuit stores the third area management key data; and

a routine of writing file data used for providing the second service in the second memory area of the integrated circuit by using the file key data.

Claim 30 (currently amended):   A   data   processing   method   for   performing processing for writing file data to a second memory area of an integrated circuit having a first memory area wherein at least one of a write operation and rewrite operation of file data used for providing a first service is authorized on the condition that first area management key data is used and a second memory area wherein at least one of a write operation and rewrite operation of file data used for providing a second service is authorized on the condition that second area management key data is used, comprising:

a routine of outputting to the integrated circuit file key data which is issued by a second service provider, used at the time of writing the file data in a third memory area, and encrypted by a third area management data when a plurality of third memory areas are defined in the second memory area, a third memory management key data used for performing at least one of a write operation of data to a third memory area and a rewrite operation of data in the third memory area is defined for each of the plurality of third memory areas, and the integrated circuit stores the third area management key data; and

a routine of writing file data used for providing the second service in the second memory area of the integrated circuit by using the file key data.